

Title (en)  
Dynamic random access memory cell.

Title (de)  
Dynamische Speicherzelle mit wahlfreiem Zugriff.

Title (fr)  
Cellule de mémoire dynamique à accès aléatoire.

Publication  
**EP 0508760 A1 19921014 (EN)**

Application  
**EP 92303134 A 19920408**

Priority  
US 68214991 A 19910408

Abstract (en)  
A dynamic random access memory cell includes a metal capacitor above an access transistor. Tungsten plugs are used to contact an active area of a device substrate. Tantalum is used for the charge storage plate of the capacitor, and oxidized to provide the capacitor dielectric. A tungsten reference plate can be deposited over the charge storage plate and dielectric to provide a common reference plate for all memory cells on the device. The tantalum oxide dielectric is formed on sidewalls of the charge storage plate, so that the capacitance of the capacitor can be increased by making the charge storage plate taller. This design allows overall cell size to shrink while maintaining adequate charge storage capacitance.  
<IMAGE>

IPC 1-7  
**H01L 27/108**

IPC 8 full level  
**H01L 21/822** (2006.01); **H01L 21/8242** (2006.01); **H01L 21/8246** (2006.01); **H01L 27/04** (2006.01); **H01L 27/10** (2006.01); **H01L 27/105** (2006.01); **H01L 27/108** (2006.01)

CPC (source: EP)  
**H10B 12/31** (2023.02)

Citation (search report)

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